UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,852	12/05/2005	Richard Perkins	PHUS030157	2095

65913 7590 07/01/2008

NXP, B.V.
NXP INTELLECTUAL PROPERTY DEPARTMENT
M/S41-SJ
1109 MCKAY DRIVE
SAN JOSE, CA 95131

EXAMINER	
TRAN, PABLO N	

ART UNIT	PAPER NUMBER
2618	

NOTIFICATION DATE	DELIVERY MODE
07/01/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No.	Applicant(s)	
	10/560,852	PERKINS, RICHARD	
	Examiner	Art Unit	
	Pablo N. Tran	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Haub et al. (hereinafter "Haub", US Pat. No. 6,944,427).

As per claim 1, Haub disclose a method of reducing the effects of intermodulation distortion in a zero-IF receiver comprising receiving an RF signal, modulating the RF signal to provide one or more baseband signals, detecting (240) an occurrence of intermodulation distortion within the one or more baseband signals, and selectively enabling (250) a wide-notch filter (130) to attenuate signal components of the one or more baseband signals within a predetermined notch-width of the wide-notch filter (130), based on the occurrence of the intermodulation distortion (fig. 3-6, col. 6/ln. 62-col. 7/ln. 19).

As per claims 2 and 11, Haub disclose the predetermined notch-width is approximately +/-60 kHz, and approximately centered at zero-Hertz (fig. 4, fig. 6).

As per claim 3, Haub disclose detecting (280) a cessation of the intermodulation distortion, and selectively disabling (280) the wide-notch filter (130), based on the cessation of the intermodulation distortion (col. 7/ln. 20-col. 8/ln. 38, col. 9/ln. 51-col. 10/ln. 56).

As per claim 4, Haub disclose detecting (240) the occurrence of intermodulation distortion includes: determining (230) a plurality of signal strength measures, and determining the occurrence of intermodulation distortion based on a relationship among the plurality of signal strength measures (col. 7/ln. 20-col. 8/ln. 38, col. 9/ln. 51-col. 10/ln. 56).

As per claims 5 and 14, Haub disclose an RSSI measure, and an Eb/Nt measure; and determining the occurrence of intermodulation distortion if the Eb/Nt measure is below a first threshold value when the RSSI measure is above a second threshold value (col. 7/ln. 20-col. 8/ln. 38, col. 9/ln. 51-col. 10/ln. 56).

As per claims 6 and 15, Haub disclose selectively disabling (280) the wide-notch filter (130) when the Eb/Nt measure substantially increases (col. 7/ln. 20-col. 8/ln. 38, col. 9/ln. 51-col. 10/ln. 56).

As per claim 7, Haub disclose an RSSI measure, and an RF energy measure; and determining the occurrence of intermodulation distortion if the RSSI measure is below a first threshold value when the RF energy measure is above a second threshold value (col. 7/ln. 20-col. 8/ln. 38, col. 9/ln. 51-col. 10/ln. 56).

As per claim 8, Haub disclose a first measure of energy in a first frequency band of the one or more baseband signals, and a second measure of energy in a second

frequency band of the one or more baseband signals, the second frequency band being higher than the first frequency band; and determining the occurrence of intermodulation distortion if the first measure of energy is substantially higher than an estimated first measure of energy corresponding to the second measure of energy absent intermodulation distortion (col. 7/ln. 20-col. 8/ln. 38, col. 9/ln. 51-col. 10/ln. 56).

As per claim 9 Haub disclose disabling the wide-notch filter based on a duration since enabling the wide-notch filter (col. 7/ln. 20-col. 8/ln. 38, col. 9/ln. 51-col. 10/ln. 56).

As per claim 10, Haub disclose a mixer that is configured to convert a received RF signal to an analog baseband signal, a detector that is configured to assert a detection signal when intermodulation distortion is detected in the analog baseband signal, a filter , operably coupled to the mixer and the detector, that is configured to selectively attenuate signal components in the analog baseband signal when the detection signal is asserted, and a baseband processor that is configured to receive the analog baseband signal and to provide therefrom a receiver output (fig. 3, fig. 5).

As per claim 12, Haub disclose the detector is further configured to de-assert the detection signal based on a duration since asserting the detection signal (col. 7/ln. 20-col. 8/ln. 38, col. 9/ln. 51-col. 10/ln. 56).

As per claim 13, Haub disclose the baseband processor is further configured to provide digital measures of signal strengths in the analog baseband signal, and the detector is operably coupled to the baseband processor and is configured to detect the

intermodulation distortion in the analog baseband signal based on the digital measures of signal strengths from the baseband processor (col. 7/ln. 20-col. 8/ln. 38, col. 9/ln. 51-col. 10/ln. 56).

As per claim 16, Haub disclose the detector is configured to detect the intermodulation distortion in the analog baseband signal based on: a first measure of signal strength in the analog baseband signal, and a second measure of signal strength in the received RF signal; and the detector asserts the detection signal when the first measure is below a first threshold value and the second measure is above a second threshold value (col. 7/ln. 20-col. 8/ln. 38, col. 9/ln. 51-col. 10/ln. 56).

As per claim 17, Haub disclose the detector is configured to detect the intermodulation distortion in the analog baseband signal based on: a first measure of energy in a first frequency band of the analog baseband signal, and a second measure of energy in a second frequency band of the analog baseband signal, the second frequency band being higher than the first frequency band; and the detector asserts the detection signal when the first measure of energy is substantially higher than an estimated first measure of energy corresponding to the second measure of energy absent intermodulation distortion (col. 7/ln. 20-col. 8/ln. 38, col. 9/ln. 51-col. 10/ln. 56).

As per claim 18, Haub disclose the baseband processor is further configured to provide the first and second measures of energy to the detector (col. 7/ln. 20-col. 8/ln. 38, col. 9/ln. 51-col. 10/ln. 56).

As per claim 19, Haub disclose the received RF signal is a quadrature-modulated signal, and the mixer is configured to provide a pair of quadrature signals that comprise the analog baseband signal (col. 7/ln. 20-col. 8/ln. 38, col. 9/ln. 51-col. 10/ln. 56).

As per claim 20, Haub disclose the filter is a digital filter that is included within the baseband processor (col. 7/ln. 20-col. 8/ln. 38, col. 9/ln. 51-col. 10/ln. 56).

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pablo Tran whose telephone number is (571)272-7898. The examiner normal hours are 9:30 -5:00 (Monday-Friday). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban, can be reached at (571)272-7899. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

4. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) System. Status information for Published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see httpr//pair-directauspto.gov. Should You have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (in USA or CANADA) or 571-272-1000.

June 22, 2008

/Pablo N Tran/

Primary Examiner, Art Unit 2618